

OSL dating of glacier deposits in the in the Terskey-Alatoo Range, Kyrgyz Republic

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OSL dating was applied to moraines and downstream fluvial deposits, located in the Terskey-Alatoo Range, the northwestern Kyrgyz Republic. The relative dating method using Schmidt-hammer showed the studied moraines at five areas (Turasu, Alabash, Dengtala, Keksay, Temilkanat) in the north flank of the Terskey-Alatoo Range formed during the Last Glacial Period. In the summer of 2003 and 2004, samples for OSL dating were collected in moraines of the oldest stage (Turasu, Alabash, Dengtala, Keksay, Temil) located at 2250-2100 m a.s.l and moraines of second oldest stage at 2700-2400 m a.s.l. (Bulak, Sary, Komsomol, Toguz, Boloshil).

The OSL of coarse grain quartz from the samples from the Terskey-Alatoo Range was very dim and the feldspar contamination could not be eliminated even after the prolonged etching using HF. Thus we utilized fine grain quartz, which appeared to be much brighter than the coarse grain quartz. Small aliquots of K-feldspar were also used for comparison. The OSL age of the fine grain quartz and K-feldspar agreed and indicated that the glacier expanded ~20-16 ka in the Terskey-Alatoo Range.